Appl. No. 10/041,033
Amdt. dated July 20, 2006
Reply to Office Action of April 21, 2006

PATENT

REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed April 21, 2006. Claims 38-46 were pending in the present application. This Amendment amends claim 38, and adds new claims 47-51, leaving pending in the application claims 38-51. Reconsideration of the rejected claims and consideration of the newly presented claims is respectfully requested.

I.   Rejection under 35 U.S.C. §103

Claims 38-46 are rejected under 35 U.S.C. §103(a) as being obvious over *Chinchar* (US 6,675,178) in view of *Tse* (US 6,895,471). Applicants respectfully submit that these references do not teach or suggest each element of these claims.

For example, Applicants' claim 38 as amended recites a system for efficiently performing memory intensive computations, comprising:

> a data cache located in memory of the system, the data cache being coupled to a first set of data stored in a database and a second set of data stored in memory of the system, wherein the data cache is configured to perform a scan operation on at least a portion of the first set of data and perform a first update operation on the second set of data with changes that have occurred in the first set of data;
> an engine manager coupled to the data cache and configured to instruct the data cache to perform the first update operation; and
> a solver coupled to the data cache and configured to perform one or more computations using the updated second set of data stored in memory to determine a first solution, the updated second set of data including the changes that have occurred in the first set of data, the updated second set of data being stored in memory facilitating faster computations than if the computations utilized the first set of data stored in the database,
> **wherein the engine manager is configured to determine if the first set of data has changed since the first update operation,** wherein if the first set of data has changed, the engine manager is configured to **perform a second update operation on the second set of data with the changes to the first set of data since the first update operation,**
> wherein the solver is configured to **re-perform the one or more computations using the updated second set of data stored in memory,** including the changes that have occurred in the first set of data since the first update operation, **when the second update to the second data set occurs during performance of the one or more computations, the re-performance allowing a second solution to be determined for the one or more computations, and transmitted to the first data, set using any changes to the second data set during the performing of said one or more computations, the re-performance further causing the first solution to be discarded without first being transmitted to the first data set**

(emphasis added). Such limitations are neither taught nor suggested by *Chinchar* and *Tse*.

Chinchar discloses a system for synchronizing data between configuration databases associated with different entities, where a change or update in configuration data is detected with a real-time detection procedure and revision data is transmitted to the other database within a maximum time interval after detection (col. 2, lines 27-41). The configuration data is updated "regularly, periodically, or on an as-needed basis so that the configuration data, in the first configuration database 14 and the second configuration database 34, are identical copies of each other with respect to the same party or parties" (col. 7, lines 26-31). A "real-time" detection procedure includes "any mechanism that is capable of detecting [of] a change in configuration data within a time interval after the change in the configuration data such that the time interval is imperceptible to a user at the user interface 31 or the parties to a transaction" (col. 8, lines 33-45).

The maximum time interval can be shortened to "reduce the chance of inaccurate configuration data in the second configuration database 34, where the second configuration database 34 is updated based on the first configuration database" (col. 10, lines 1-14). *Chinchar* therefore discloses that transactions in this system can utilize inaccurate information due to the synchronization process and time between updates. To further improve the accuracy, *Chinchar* proposes flagging the data transmitted during a maximum time interval to indicate that a proposed transaction "is required to reference the second configuration database 34 prior to execution of the proposed transaction and after an expiration of the maximum time interval" (col 10, lines 14-26). *Chinchar* therefore can account for changes that occur only prior to a transaction being executed. *Chinchar* does not teach or suggest any way to account for changes that happen during the processing of a transaction, or at any point after the transaction has begun processing. *Chinchar* specifically does not teach or suggest re-performing a computation using the updated data set stored in memory including changes that occurred during processing in order to include those changes in a solution to the computation, discarding the first solution based on the old data.

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It is asserted on page 6 of the Office Action that *Chinchar* "specifically teaches detecting a change in configuration data stored in a database in real-time," and that changes are made periodically and the changes "are updated to the second database and the computations are made thereafter." It is respectfully submitted, however, that even if *Chinchar* includes such teachings, *Chinchar* still does not teach or suggest the re-performing of a computation to determine a second solution when a change occurs during the processing of the computation, particularly where the first solution based on data before the change is discarded. Even assuming the teachings of *Chinchar* and the assertions of the Office Action for sake of argument, *Chinchar* would at best teach the subsequent processing of a transaction after an update to the data, but would not have discarded the first solution, and would apparently transmit both solutions, so the first solution would be transmitted which would be based on old and/or incorrect data. The embodiment claimed in Applicants' claim 38 discards the incorrect first solution without first transmitting that solution, and instead re-performs the computation to determine a correct second solution, and only transmits that correct second solution in order to avoid transmitting any erroneous data. Since *Chinchar* does not teach or suggest such limitations, *Chinchar* cannot render Applicants' claim 38 obvious.

Tse does not make up for the deficiencies in *Chinchar* with respect to claim 38. *Tse* teaches a system for increasing data throughput and reducing load on processing resources by synchronizing a lookup cache with a data set (col. 4, lines 10-55), and is cited as teaching storing data in a data cache, thereby facilitating faster computations (OA p. 3). Even if *Tse* includes such teachings, these teachings do not make up for the fact that *Tse* does not teach or suggest the re-performing of a computation to determine a second, current solution when a change occurs during the processing of the computation, particularly where a first, out-of-date solution based on data before the change is discarded without first being transmitted. As such, *Tse* cannot render obvious Applicants' claim 38, or the claims that depend therefrom, either alone or in combination with *Chinchar*.

Applicants therefore respectfully request that the rejection with respect to claims 38-46 be withdrawn.

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II. Amendment to the Claims

Unless otherwise specified, amendments to the claims are made for purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof. The amendments are supported by the specification and do not add new matter.
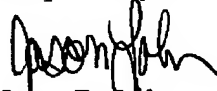
III. Newly Presented Claims

Claims 47-51 have been added to cover different aspects of the present invention. These claims are supported by the specification and do not add new matter. Applicants therefore respectfully request consideration of newly presented claims 47-51.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

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